

REMARKS

Claims 1-48 are all the claims presently pending in the application.

It is noted that the claim amendments are made only for more particularly pointing out the invention, and not for distinguishing the invention over the prior art, narrowing the claims or for any statutory requirements of patentability. Further, Applicant specifically states that no amendment to any claim herein should be construed as a disclaimer of any interest in or right to an equivalent of any element or feature of the amended claim.

Claims 4-41, 43, 47, and 48 are allowed. Claims 1-3, 42, and 44-46 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,684,714 to Yogeshwar.

This rejection is respectfully traversed in the following discussion.

I. THE CLAIMED INVENTION

The claimed invention is directed to a compressed moving picture re-encoding apparatus that has an input compressed moving picture stream, generated by a compression-encoding of moving picture data, as an input signal, performs re-encoding at a pre-set average bit rate and at a variable bit rate, and has an output compressed moving picture stream whose bit rate has been changed as an output signal.

The apparatus includes means for receiving the pre-set average bit rate and for computing a quantizer step size that is used in the re-encoding. There is also means for inputting the computed quantizer step size and a quantizer step size in the input compressed moving picture stream and outputting a quantizer step size that is used in actual re-encoding.

As discussed beginning at line 23 of page 5 of the specification, conventional systems for the re-encoding of an input compressed moving picture stream have a problem of picture quality degradation because the target number of bits is set based on the number of bits of the input compressed moving picture stream.

In contrast, the present invention presents a number of embodiments that overcome this problem. A key feature of the present invention is that it finds image characteristics using encoding information contained in the input compressed moving picture stream, calculates quantizer step size setting according to the characteristics, and performs correction for the quantizer step size using the difference between the target number of bits and the actual

number of bits.

II. THE PRIOR ART REJECTION

The Examiner alleges that Yogeshwar anticipates claims 1-3, 42, and 44-46. Applicant submits, however, that there are elements of the claimed invention which are neither taught nor suggested by Yogeshwar.

It is first noted that the evaluation must be done through the eyes of "one of ordinary skill in the art". That is, terminology and diagrams must be interpreted as would one of ordinary skill in the art. The rejection currently of record fails to evaluate Yogeshwar in this manner and fails to heed the plain meaning of the claim language.

Because of this different evaluation approach, the rejection currently of record fails to meet the initial burden of a *prima facie* rejection.

Of particular importance, the present invention addresses a computerized re-encoding apparatus. In contrast, Yogeshwar addresses a re-encoding apparatus that requires manual inputs. To one of ordinary skill, this different environment clearly precludes Yogeshwar from reading on the plain meaning of the language of the claims.

More specifically, because Yogeshwar is based on manual inputs from the user to change the quality of specific time periods of encoded video, it fails to achieve the description of the claims as being done by the apparatus. One such feature that the apparatus of Yogeshwar therefore fails to provide is the re-encoding at a pre-set average bit rate, since the user's inputs therein inherently require that no pre-set average bit rate is received by the apparatus and used as a basis of its operation for re-encoding. Applicant has moved phraseology related to this aspect of the present invention to be included in the body of the claim, in order to provide patentable weight.

However, Applicant also points out that, to one of ordinary skill in the art, the original wording was adequate to articulate this differentiation as an automated system. That is, in Yogeshwar, there are four steps:

Step 1: Encoding the moving pictures and outputting the bit stream.

Step 2: Picking up a defective part from the picture obtained in step 1.

Step 3: Adjusting an encoding (quantizing) parameter for the defective part in step 2.

Step 4: Re-encoding the moving pictures with the encoding parameter in step 3 and

outputting the bit stream.

That is, "re-encoding" in Yogeshwar does not indicate the re-encoding of the moving picture decoded from the bit stream or of a partly decoded bit stream, but, rather, the re-encoding of the original picture. In contrast, the present invention re-encodes the moving picture decoded from the bit stream or of a partly decoded bit stream.

Additionally, relative to the rejection for claims 1 and 45, Applicant submits that Yogeshwar re-calculates a quantizing parameter with an encoded quantization parameter and re-encodes the original moving picture signal, as described beginning at line 63 of column 3). Applicant submits that, to one of ordinary skill in the art, this concept is different from the plain meaning described in claim 1.

Hence, turning to the clear language of the claims, in Yogeshwar, there is no teaching or suggestion of: "[a] compressed moving picture re-encoding apparatus that has an input compressed moving picture stream, generated by a compression-encoding of moving picture data, as an input signal, performs re-encoding at a pre-set average bit rate and at a variable bit rate, and has an output compressed moving picture stream whose bit rate has been changed as an output signal, said compressed moving picture re-encoding apparatus comprising: means for receiving said pre-set average bit rate" (emphasis Applicant's), as required by claim 1.

The other independent claims 3 and 45 have been amended similarly to provide patentable weight to this phrase.

Relative to the rejection for claims 2 and 46, Applicant respectfully submits that one of ordinary skill in the art would not agree that there is a mechanism in Yogeshwar that reasonably provides the selection process described in the final limitation. In Yogeshwar, a quantizing parameter does not exceed the maximum value (e.g., 112 or 62) of the re-quantizer step size in an encoding method (e.g., MPEG-2 video). Claim 2 recites that the present invention makes a choice between the re-calculated quantizer step size and the inputted bit stream quantizer step size. This feature is not taught or suggested in Yogeshwar.

That is, Applicant submits that Yogeshwar fails to teach or suggest: "... means for selecting a larger quantizer step size from said quantizer step size that is used in re-encoding and said quantizer step size in the input compressed moving picture stream", as required by the language of the claims.

Relative to claim 3, this claim recites the feature that a quantizer step size is weighted

on the basis of image characteristics. On the other hand, Yogeshwar does not take the image characteristics into consideration, as can be seen at column 13, line 29, in which Yogeshwar states that "... the user may manually adjust the quantization."

Relative to claim 44, this claim recites the feature that the quantizer step size for re-encoding is minimized. Yogeshwar does not disclose this feature.

Therefore, Applicant submits that there are elements of the claimed invention that are not taught or suggest by Yogeshwar, and the Examiner is respectfully requested to withdraw this rejection.

III. FORMAL MATTERS AND CONCLUSION

In view of the foregoing, Applicant submits that claims 1-48, all the claims presently pending in the application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0481.

Respectfully Submitted,

Date: _____

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